

ASER-A Miniature crash test acceleration transducers

Using a sputtering strain as the sensing element, the oil damped miniature acceleration transducer is suitable for measuring acceleration in pedestrian head protection tests, as well as for measuring acceleration of dummy heads and vehicle body in automotive crash safety tests.



Features

- The oil damping design eliminates bad effects of resonant output during acceleration measurement in pedestrian head protection and other automotive crash safety tests.
- The compact design enables installation at small regions of measurement during automobile crash safety testing.
- High output can be obtained from the ability to handle an applied voltage of 10V.
- The structure makes it possible to remove output cables for replacement.

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Specifications

Model name	Rated capacity (reference value)	Rated output	Allowable overload
ASER-A-100	$\pm 980.7 \text{ m/s}^2$ ($\pm 100\text{G}$)	0.5mV/V or more (strain of $1000 \mu\text{m/m}$)	500%
ASER-A-500	$\pm 4903 \text{ m/s}^2$ ($\pm 500\text{G}$)	1mV/V or more (strain of $2000 \mu\text{m/m}$)	400%
ASER-A-1K	$\pm 9807 \text{ m/s}^2$ ($\pm 1000\text{G}$)	2mV/V or more (strain of $4000 \mu\text{m/m}$)	200%

●Performance

Non linearity	Within $\pm 1\%R_0$
Hysteresis	Within $\pm 1\%R_0$
Difference between	
Peak-to-peak sensitivity deviation capability	1% R_0 or less

●Environmental properties

Safe temperature range	-15 to 65°C
Compensated temperature compensation	5 to 40°C
Temperature effect on zero balance	Within $\pm 1\%R0/^{\circ}C$
Temperature effect on output	Within $\pm 0.5\%^{\circ}C$

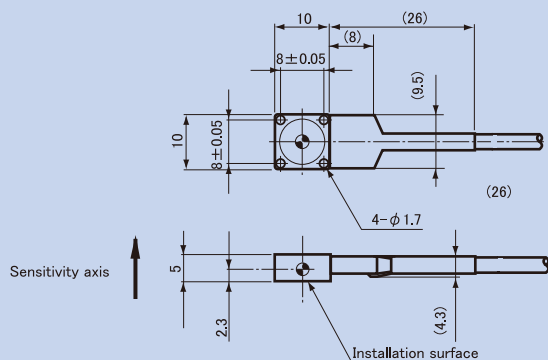
●Electrical characteristics

Safe excitation voltage	10V AC or DC
Recommended excitation voltage	2 to 10V AC or DC
Input resistance	300 to 1000Ω
Output resistance	300 to 1000Ω
Cable	0.05mm, 4-conductor (0.05mm ²) vinyl shielded cable 7m long. Outside diameter 2.6mm diameter Connector plug at the end (R05-PB5M) (The shield is not connected to the chassis.)


●Mechanical properties

Response frequency range (at 23°C)	0 (DC) to 1 kHz (sensitivity deviation $\pm 3\%$) 1 to 2 kHz (sensitivity deviation $\pm 10\%$) : For the value of 100 1 to 4 kHz (sensitivity deviation $\pm 10\%$) : For the value of 500 or 1K
Lateral sensitivity	2% or less
Weight	Approximately 3g for the main body

●Drawing for external dimensions



Notes:

1. Unless otherwise specified, the dimensional tolerance is based on the JIS B 0405-c specification.
2. The shielded wire is not connected to the chassis.
3. The  indicates the center of gravity.

Standard accessories

Two hexagon socket head bolts (M1.6x8)
with a tightening torque of 0.1 Nm

Optional accessories

Conversion cable: TT-18
(from R05-PB5M to NDIS standard)

[Caution]

Testing on the protective performance of the pedestrian head might involve noise from electric charges produced between the head impactor's skin and skeleton sections during a collision, thus leading to effect on the output from this device. To prevent such a problem from occurring, therefore, it is recommended that you make a grounded connection between the head impactor's metallic skeleton section and the measuring instrument. For testing other than on the protective performance of the pedestrian head, it is also recommended to make a grounded connection between what is being measured and the measuring device. For details, you should refer to the "Recommended Instructions of Use" mentioned in our instruction manual or website.

http://www.kyowa-ei.co.jp/product/automobile/crash/ase_a.html



JQA-0821
JQA-EM4824

Specifications are subject to change without notice for improvement.



Safety precautions

Be sure to observe the safety precautions given in the instruction manual, in order to ensure correct and safe operation.

Reliability through integration



KYOWA

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